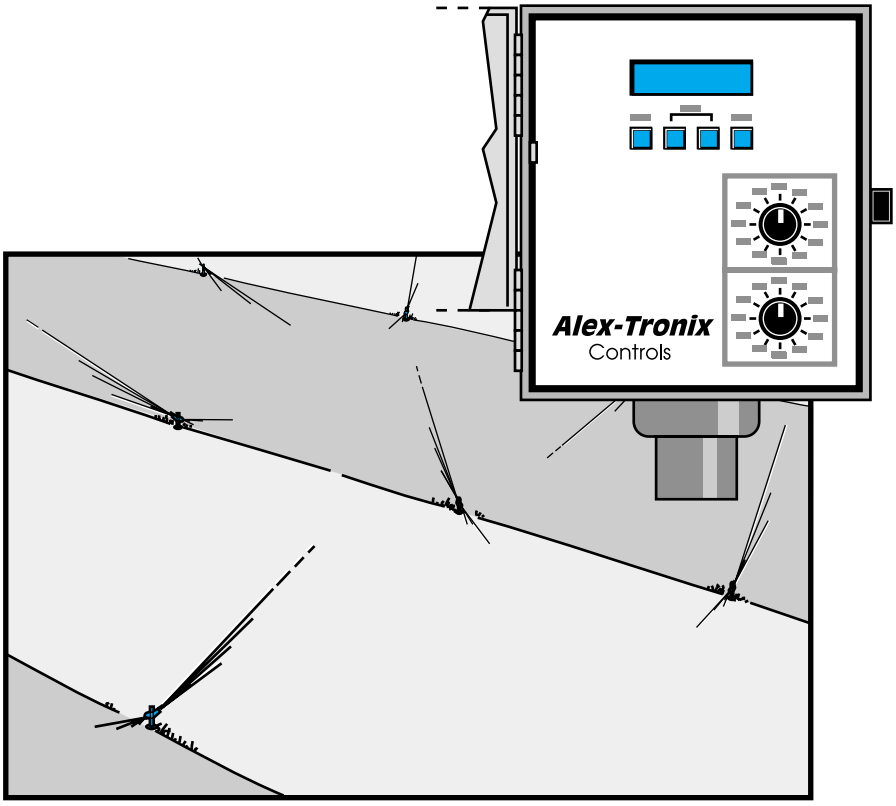
Irrigation Valve Solenoid Energy Saver

New Solenoid Controller for Irrigation Valves Saves Energy

A battery operated, multi-station, irrigation valve control unit was developed with funding from DOE's Inventions and Innovation Program. The Battery Control System (BCS) uses low-powered, latching solenoid controllers with internal batteries that last for a minimum of 5 years.

Automated irrigation systems with latching solenoid controllers require a constant flow of electricity to keep the valves operating. A battery sends power surges to the solenoid as needed to open and close the valves. The BCS available from Alex-Tronix Controls uses the SWELL solenoid power saver. With the SWELL unit, the inrush and holding current requirements are only about 10% that of most other solenoids. The SWELL's greatly reduced inrush and holding current requirements allows valves to be operated at much longer distances. The BCS can operate valves reliably out to a distance of almost 20 miles. Other battery-powered controllers are limited in distance to about 1000 feet. Up to five valves can be operated simultaneously with a single irrigation controller. The solenoid coil never burns out because there is no power in the coil.



Battery Control System for Irrigation Valves

Overview

- Developed and being marketed by Alex-Tronix Controls
- Commercialized in 1999 with over 2200 units in the field
- Proven operation in laboratory and field tests

Energy Savings

(Trillion Btu)

Cumulative through 2003	2003
0.011	0.004

Emissions Reductions

(Thousand Tons, 2003)

Particulates	SO_X	NO_X	Carbon
0.0	0.001	0.001	0.07

Applications

For sprinkler systems in medians, schools, shopping malls, golf courses, parks, agricultural and industrial applications

Capabilities

- Operates valves out to about 20 miles.
- Eliminates the energy and primary wiring needed to operate an irrigation system.
- Technology has 10 times the battery life and 100 times the operating distance of any other controller.

Benefits

Ease of Installation

Controllers can be installed anywhere. There is no need to install electrical meters or to use licensed electricians for installation.

Safety

There are no electrical safety concerns. Power surge and lightning-related problems associated with primary power leads are eliminated because there is no need for primary wiring.

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